

Variation in Korean Negation*

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1.0. Introduction.

Negation is a controversial area of Korean syntax that has recently drawn considerable attention, particularly from native generative grammarians. Various analyses have been proposed, but all of these fail to capture the fact that the variable behavior of negation depends on certain constraints that are regular and predictable. This study is an attempt to throw some light on the nature of these constraints and to show that the variability is a natural result of a set of different but related rules.

2.0. Previous analyses.

The basic problem comes from the fact that there are two possible ways of negating an affirmative sentence, and that there appears to be no semantic distinction between these two types. In the examples below, the relevant parts of the sentences are underlined for ease of comparison:¹

- (1) a. Mica-ka ton-ul *nay-nta*.

Mica-SM money-OM pay-Aux

'Mica pays.'

- b. Mica-ka ton-ul *ani-nay-nta*.

Mica-SM money-OM Neg-pay-Aux

'Mica does not pay.'

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¹ Yale romanization is used in the transliteration of Korean. Word-by-word translation and the grammatical labels of the formatives are given on the second line. The complete translation is given on the third line.

Abbreviations:

SM: subject marker

OM: object marker

T: topical marker

Comp: complementizer

Aux: auxiliary verbs (details are omitted from this study.)

- c. Mica-ka ton-ul *nay-ci ani-ha-nta*.

Mica-SM money-OM pay-Comp Neg-do-Aux

'Mica does not pay.'

- (2) a. Mica-nun *khu-ta*.

Mica-T big-Aux

'Mica is tall.'

- b. Mica-nun *ani-khu-ta*.

Mica-T Neg-big-Aux

'Mica is not tall.'

- c. Mica-nun *khu-ci ani-ha-ta*.

Mica-T big-Comp Neg-do-Aux

'Mica is not tall.'

Negative sentences of the type illustrated by sentences (1b) and (2b) (to be referred to henceforth as Type I negation) are quite straightforward. Sentences are negated simply by placing the negative marker before the main verb. There is little disagreement concerning this type of negation. However, sentences of the type illustrated in (1c) and (2c) (Type II negation) are more complex, involving the introduction of the elements *-ci* and *ha-* as well as Neg. What happens in these sentence is the following: (1) the verb to be negated is nominalized with *-ci*; (2) *ha-* is introduced to function as the main verb of the negative sentence; (3) Neg is placed before the newly introduced *ha-*.

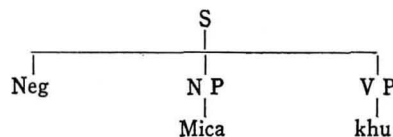
There have been four main approaches to the description of Korean negation:

- (a) Positing different underlying structures for Type I and Type II negation (Song 1967).
- (b) Positing one underlying structure for both types of negation, where Neg is
 - (i) a postsentential element and adopting Neg-Palcement transformations (Kim 1967);
 - (ii) in the embedded sentence and adopting a Negative Transportation (NT) transformation (Lee 1970);
 - (iii) a higher predicate and adopting a Negative Incorporation (NI) transformation (Oh 1971).

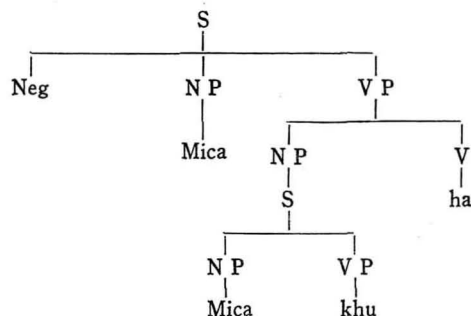
Song (1967) posits the following underlying structures: (3) for Type I and (4) for Type II, respectively.

To the extent that the synonymity of the two types of negation is not due to lexical

(3)



(4)

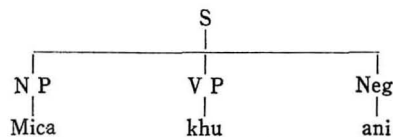


synonymy but results from grammatical structures, there is no reason to believe that the two types have different underlying structures. In Song's analysis, therefore, the apparent relationship that exists between these two types of negative sentences is not captured.²

Kim, Lee and Oh posit a single underlying structure for both types of negation, but the nature of the underlying structure and the syntactic rules involved are quite different.

In Kim's analysis, Neg is posited as a postsentential element as shown in (5).

(5)



Neg functions as a triggering element for the transformational rules necessary for both types of negation.

Even though this analysis may generate the wanted surface structures, the status of Neg is not clear, being an arbitrary element, set up uniquely for the purpose of triggering transformational rules to arrive at the desired surface structures.

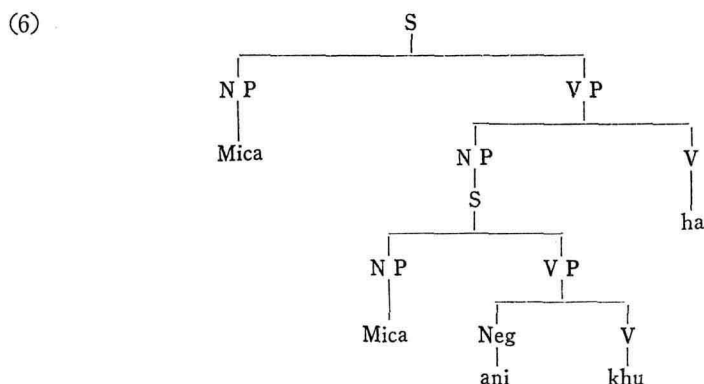
² Song (1973) tries to defend his earlier analysis by trying to disprove the semantic synonymy between the two types of sentences. However, his argument is not convincing, because his examples involve idiomatic expressions (e.g. *ani toy-ess-ta* 'too bad, sorry'; *toy-ci ani-ha-ess-ta* 'It did not work out.');

cases where special restrictions on transformations are relaxed (e.g. **ani-ttena-ess-ta* for *ttena-ci ani-ha-ess-ta* 'He did not leave.');

or verbs which cannot have Type I negation (e.g. **ani-molu-nta* 'He is not ignorant of', **ani-ep-ta* 'He does not lack', etc.).

Actually synonymy of the two types of negation is confirmed by the fact that native speakers, when asked to negate a sentence, give both types of negation as long as they do not violate certain restrictions of transformations to be discussed shortly. It is true that in language a complete synonymy between two different expressions cannot be claimed, but any subtle semantic differences in the derived structures can presumably be predicted by features marked in *Neg* as well as by the scope of negation.

In Lee's analysis, the verb *ha-* in Type II negation is considered to be the same as the verb *ha-* meaning 'act, do.'³ It is claimed, then, that the verb *ha-* exists in the underlying structures of all sentences and that it is automatically deleted in affirmative sentences with nondenominal verbs.⁴ The following deep structure would be posited for both (2b) and (2c):



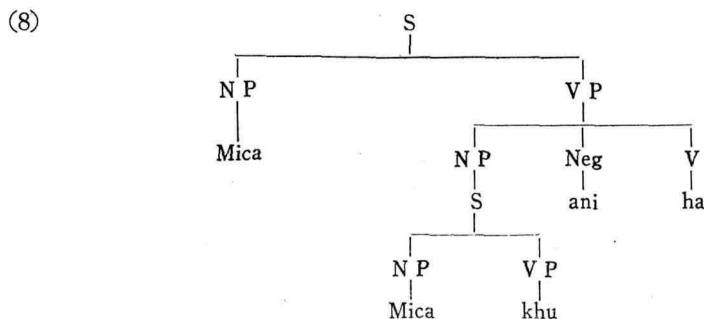
The NT transformation that moves Neg from the embedded sentence to the higher sentence is as follows:

(7) *Negative Transportation* (NT)

$$\begin{array}{ccccccc}
 X, & s[X, & \text{Neg}, & \begin{array}{c} V \\ [\alpha N] \end{array} &] & s, & V^* \quad X \\
 1, & 2, & 3, & 4, & & 5, & 6 \\
 & & & & & \xrightarrow{\text{opt.}} & \\
 1, & 2, & \phi, & 4 & & , & 3+5, 6
 \end{array}$$

Where V^* represents the class of verbs like *ha-* 'do, be', *mit-* 'believe', *sayngkakha-* 'think', etc.

The application of NT to the structure given in (6) results in the derived structure below:



³ This is equivalent to saying that the *do* in 'I do not like it.' and the *do* in 'I will do the cooking today.' are the same.

⁴ Denominal verbs are compound verbs consisting of a noun followed by a verbalizing affix *-ha*.

The nominalizing suffix *-ci* is a morphophonemically conditioned variant of *-ki*, which is inserted after an embedded sentence by a complementation transformation that is independently needed in the grammar.

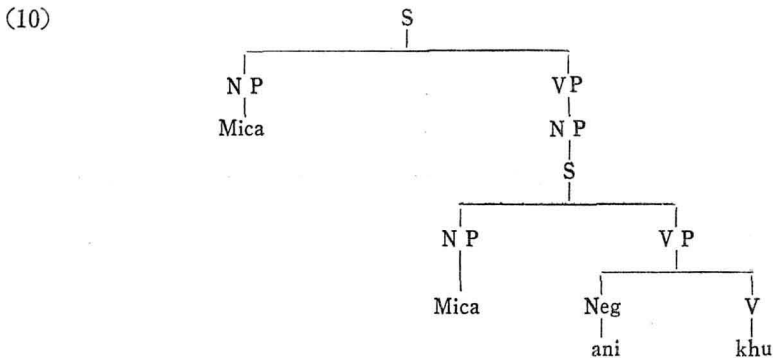
Thus, by applying Negative Transportation and some general transformational rules like Complementation, Equi-NP Deletion, and Tense Spelling to the deep structure (6), sentence (2c) is derived.

When the optional transformation NT is not applied, Neg remains in its original position and *ha-* Deletion is obligatorily applied:

(9) *ha-Deletion*

$$\begin{array}{ccccccc} X, & s[X, & V]_s, & ha, & X & & \\ & 1, & 2, & 3, & 4, & 5 & \text{oblig.} \\ & & & [-N] & & & \Rightarrow \\ & 1, & 2, & 3, & \phi, & 5 & \end{array}$$

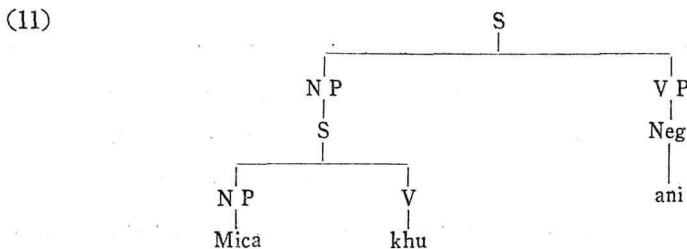
The application of *ha-Deletion* to the underlying structure (6) yields the derived structure below:



Equi-NP Deletion and other rules will apply to this structure to derive sentence (2b).

Lee states that the NT transformation is obligatory if $\alpha = +$. Oh correctly criticizes Lee for describing denominal verbs as $[+V, +N]$, a feature specification that is not easily adoptable within the framework of current generative theory.

Oh assumes the following underlying structure for sentences (2b) and (2c):



Oh, then, posits the following transformational rules:

(12) *Negative Incorporation* (NI)

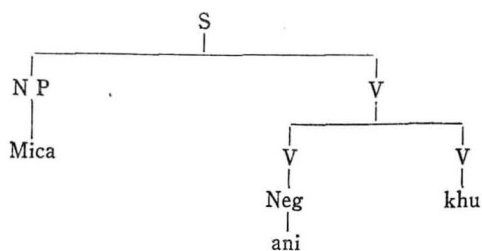
$$\begin{array}{ccc} s[X, & V]_s, & \text{Neg} \\ 1, & 2, & 3 \\ 1, & [3+2]_v, & \phi \end{array} \xRightarrow{\text{opt.}}$$

(13) *ha-Addition*

$$\begin{array}{ccc} X, & \left\{ \left\{ \begin{array}{c} \text{Neg} \\ Y \text{ Contextual Particle} \end{array} \right\} \right\} & V \\ 1, & 2 & \\ 1, & 2+ha & \end{array} \xRightarrow{\text{oblig.}}$$

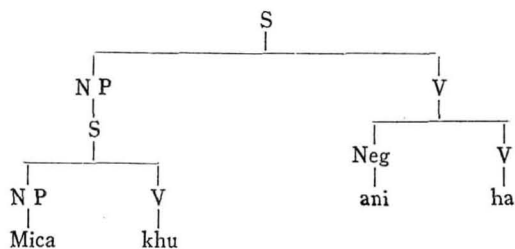
By this analysis, Neg is analyzed as a higher predicate which is moved down into the lower sentence by Negative Incorporation, as follows:

(14)



When Negative Incorporation is not applied, *ha*-Addition applies obligatorily to yield:

(15)



By applying general transformations such as Complementation (and the rule converting *ki* to *ci*) and Tense Spelling to (14) and (15), sentences (2b) and (2c), respectively, are derived.

Oh's Negative Incorporation approach is superior to Lee's Negative Transportation approach. Oh points out that *ha* is not a NT verb; that the *ha*-associated with Type II negation is not only quite distinct in its syntactic properties from the independent verb *ha*- 'act, do', but it is also completely predictable from other elements in the sentence and bears no meaning of its own. Oh refers to the independent verb as *ha*₁- and the *ha*- associ-

ated with Type II negation as *ha*₂. He concludes from the above facts that there is no reason to posit *ha*- in the deep structure of Type II negation, and therefore introduces it transformationally. An additional advantage of Oh's analysis is that the questionable feature specification [+V, +N] required by Lee is no longer necessary.

Oh's analysis is also supported by the fact that the two *ha*'s have different phonological behavior. In general, Neg+*ha*₂ has contracted forms [anninda] (<ani-ha-n-ta) and [antha] (<ani-ha-ta), but Neg+*ha*₁ [anhanda] (<ani-ha-n-ta) and [anhada] (<ani-ha-ta).

However, even the NI approach is not altogether satisfactory, because the rule fails to capture some important facts about negation, for example, it is unable to explain why the sentence *ku haksayng-un ani-kongpu-ha-n-ta* is less grammatical than the sentence *ku haksayng-un kongpu-ani-ha-n-ta*, both meaning 'That student does not study.'

3.0. An empirical study of variation.

3.1. Initial hypotheses and method.

While Korean speakers have available to them two different types of negation, there is a difference in the degree of productivity and acceptability of the two types. It seems that almost any sentence can be negated by means of Type II negation.⁵ Type II negation was judged grammatical for all the verbs tested, with a striking near-unanimity (276 judgements as grammatical as opposed to only 5 as ungrammatical).

Type I negation, on the other hand, is much less productive and evokes a quite variable reaction from different native speakers. Whether or not a sentence can have Type I negation and, if so, how the rule is to be applied largely depend on the nature of the main verb being negated.⁶ A study of variation demonstrates that there is a definite regularity underlying a superficially chaotic situation.

This study began with the hypothesis that the possibility of Type I negation is contingent primarily upon the way a given speaker analyzes the verb of a given sentence. More specifically the following aspects were hypothesized:

- (16) a. In nondenominial verbs, Type I negation tends to apply more to a sentence with a

⁵ There are a few idiosyncratic verbs like *al*- 'know' and *iss*- 'have', which take neither kind of negation but must be expressed with antonyms *molu*- 'be ignorant of' and *eps*- 'not have'. However, our study does not go into the investigation of a possible variation even in this area.

⁶ Actually there were some remarks on these points in Song (1967) and Kim (1967), but no regularity was claimed in either case.

- (i) monosyllabic verb;
 - (ii) nonstative verb.
- b. In denominal verbs, different kinds of Type I negative sentences may result, and they are due to differences with respect to the points in a tree where a given speaker applies the transformational rule.
- c. The constraints given in (16a) and (16b) may be more relaxed in the speech of children and in casual speech in general.

These hypotheses were used to construct a set of test sentences (two for each sentence type) given to twenty three native Korean speakers who came to Hawaii very recently and still speak Korean at home. The speakers ranged quite widely in age, education, and in place of language acquisition. The test instructions required each speaker to indicate the degree of grammaticality of each sentence given on a scale ranging from 1 (clearly grammatical) to 4 (clearly ungrammatical). Later, for purposes of scaling, categories 1 and 2 were collapsed and treated as *plus* and categories 3 and 4 were treated as *minus*. If a single speaker judged sentences of the same type inconsistently, the symbol "X" was used to represent the variability.

The analysis assumed here is very similar to that posited by Oh (1971), involving the same underlying structure and the same rules. It was found, however, that Oh's NI transformation rule, as it now stands, does not show the degree of grammaticality felt by native speakers. Therefore NI is treated as a set of different but related rules, in which there exist implicational relationships, as will be shown below.

3.2. Non-denominal verbs.

The sentences used in the judgment tests for non-denominal verbs fall into four categories on the basis of the presence or absence of the two hypothesized relevant facts about the verb. Case A is where the verb is both monosyllabic and nonstative; Case B is where the verb is monosyllabic but stative; Case C is where the verb is nonstative but polysyllabic; and Case D is where the verb is neither monosyllabic nor nonstative. These cases represent a hierarchy which is assumed to correspond to the degree to which a sentence with Type I negation will be judged grammatical. The ordering between Cases B and C expresses the apparently greater significance of the length factor over the stativity factor.

The transformation involved in all these cases is the same, moving the Neg into a position immediately preceding the verb, only the constraints on rule applicability being different.

(17) $s[X, V]_s$, Neg

1, 2, 3 \implies

1, 3+2, ϕ

The following sentences exemplify the above cases:⁷

(18) A. Verb is *both monosyllabic and nonstative*:

A1. ton-ul *ani-nay-n* ta [annānda]

money-OM Neg-pay-Aux

'He does not pay.'

A2. ayki-ka *ani-ca-nta* [anǰanda]

baby-SM Neg-sleep-Aux

'The baby does not sleep.'

B. Verb is *monosyllabic but not nonstative*:

B1. chayk-i *ani-coh-ta* [anǰotha]

book-SM Neg-good-Aux

'The book is not good.'

B2. khi-ka *ani-khu-ta* [ankhida]

height-SM Neg-big-Aux

'He is not tall.'

C. Verb is *nonstative but not monosyllabic*:

C1. namphyen-ul *ani-tulpokk-nunta* [andilbogninda]

husband-OM Neg-nag-Aux

'She does not nag her husband.'

C2. elkwul-i *ani-sayppalkayci-nta* [ansäp'algäǰinda]

face-SM Neg-(really) redder-Aux

'(Someone) really blushes.'

D. Verb is *neither monosyllabic nor nonstative*:

D1. mosup-i *ani-alumtap-ta* [anarimdapt'a]

countenance-SM Neg-beautiful-Aux

'Her countenance is not beautiful.'

D2. ku san-un *ani-nophthalah-ta* [annopt'aratha]

⁷ From now on we will consider these cases as different rules, because even though they all involve NI transformation, each rule has a different constraint. Broad phonetic transcriptions are given in square brackets.

that mountain-T Neg-high-Aux³

'That mountain is not high.'

3.2.1. Results.

The results of a judgment test such as this one can be displayed in a table where the rows represent the speaker identification and the columns represent the Rules A-D. Each cell containing a plus means that the speaker consistently judged sentences of that type as being grammatical and a minus in any cell implies a consistent judgment of ungrammatical. The presence of the symbol "X" in any cell means that the speaker's judgments about sentences of that type were inconsistent.

If the hypothesized implicational relationship between Rules A-D really exists, there should be speakers who accept negative sentences of all four cases, some who accept only A-C, some who accept only A-B, others who accept only A, and perhaps still others who don't accept any of these cases. This would mean that in the ideal situation, if the speakers who accepted all four cases were placed at the top of the table and those who accepted none were placed at the bottom, a rough diagonal line can be drawn between the lower left and the upper right corners of the table which will separate out all positive judgments from all negative ones.

Table 1 shows the isolects predicted by the NI rule with different constraints as shown in A-D, that is, the range of possible output of a speaker with no variation.⁸

Rules		A	B	C	D
Isolects					
I		+	+	+	+
I'		+	+	+	X
II		+	+	+	—
II'		+	+	X	—
III		+	+	—	—
III'		+	X	—	—
IV		+	—	—	—
IV'		X	—	—	—
V		—	—	—	—

Table 1. Ideal distribution of judgments according to hypotheses.

The isolect is an idealization, and no psychological reality is necessarily attributed thereto. But each subset of isolects can be regarded as potentially representing a psychological

⁸ In Table 1 and Table 3, I'-IV' represent intermediate lects where one rule remains optional (expressed by X here).

reality, i.e., that such a subset can be conceived of as constituting a grammar of an individual speaker (cf. Bickerton 1972).

Table 2 shows speakers who are ranked for application of the NI transformation rule with various constraints.⁹

Speaker	Isolect	Rules			
		A	B	C	D
4	I	+	+	+	+
19	I	+	+	+	+
17	I	+	+	+	+
21	I	+	⊗	+	+
20	I'	+	+	+	X
3	I'	+	+	+	X
23	I'	+	+	+	X
16	I'	+	+	+	X
1	I'	+	+	+	X
14	I'	+	+	+	X
11	II	+	+	+	—
12	II	+	+	+	—
7	II	+	⊗	+	—
15	II	+	⊗	+	—
2	II'	+	+	X	—
10	II'	+	+	X	—
9	III	+	+	—	—
5	III	+	+	—	—
22	III	+	+	—	—
8	III'	+	X	⊗	—
13	III'	+	X	—	—
18	IV	+	—	—	—
6	IV	+	—	⊗	—

Table 2. Empirical results of judgment test on Rules A-D for 23 speakers. 95 percent scalable with 5 deviations and 92 filled cells in 92 possible. Deviations are circled

⁹ In Table 2 and Table 4, the leftmost column is the number of the speaker (arbitrarily assigned) and the next leftmost column indicates to which isolect the speaker belongs according to Table 1 and Table 3. Speakers may be identified by age/sex/education/ place of language acquisition as follows:

- | | | |
|----|-----------|---------------------|
| 1 | 12/M/P/S | P: primary school |
| 2 | 12/M/P/S | H: high school |
| 3 | 12/F/P/S | C: college and more |
| 4 | 10/M/P/S | S: Seoul |
| 5 | 11/F/P/S | K: Kyengsangto |
| 6 | 12/F/P/S | Ch: Chwungchengto |
| 7 | 13/M/P/S | Ph: Phyanganto |
| 8 | 25/F/C/S | Ph: Phyanganto |
| 9 | 25/F/C/Ph | Hw: Hwanghayto |
| 10 | 31/M/C/Ch | |

3.2.2. Analysis of results.

Table 2 clearly demonstrates that the hypothesized implicational relationships are substantially correct. There is a striking 95 percent scalability.

Column B shows three deviations. I suspect that what happened here is that the lexical items used for the test had clear antonyms, and that speakers like 7, 15, and 21 might prefer using them rather than negating a given sentence. I have tried some elicitation experiments, and in effect received many such responses, i.e., I obtained antonyms rather than negated sentences.

Column C for speaker 8 might express the fact that changes do not necessarily wait until previous changes have been completed. Thus there can be more than one variable rule in one lect. The remaining deviation, Column C for speaker 6 is unexplainable for the moment.

It is appropriate to ask at this point *why* monosyllabicity and nonstativity should be relevant to the grammaticality of Type I negation. The explanation for the significance of monosyllabicity seems reasonably straightforward. The incorporated negative becomes part of the phonological word with the verb. Thus, the longer the verb is, the longer it will be in the negative. It appears that shorter negated verbs are more acceptable much in the same way that the English comparative and superlative constructions allow a monosyllabic stem (e.g. *fast*, *calm*) to take a suffixed *-er* or *-est*, while longer forms use *more* and *most* (e.g. *more alert*, *most natural*). When the output of Type I negation is judged awkward or unnatural by a speaker, he can simply fail to apply the optional negative incorporation rule and express precisely the same idea by Type II negation.

As for the significance of nonstativity to Negative Incorporation, this remains a mystery to me, and it is not clear why constructions with stative verbs might be dis-

-
- 11 32/M/C/K
 - 12 33/M/C/K
 - 13 35/M/C/K
 - 14 34/F/C/S
 - 15 35/M/C/Ch
 - 16 36/M/C/Ch
 - 17 38/M/C/S
 - 18 32/F/C/S
 - 19 40/F/C/S
 - 20 61/F/P/S
 - 21 64/F/P/S
 - 22 68/F/P/S
 - 23 74/F/HHw

favored.¹⁰

Implicational scaling seems to throw some light on a mechanism of language change. Notice in Table 2 that Column A, which is categorically judged as grammatical, is defined by the most narrowly constrained structural description. That is, it is marked by the most restricting feature specifications. Thus A can be considered as the earliest environment where the NI transformation is applicable, the change spreading in the direction of a more and more general environment, until all restricting features are dropped. If we consider the feature [+monosyll] as more heavily weighted than the feature[-stative] (perhaps for a universal reason),¹¹ then we can say that in all cases a more general rule implies a less general rule.¹²

3.3. Denominal verbs.

The behavior of denominal verbs is considerably more complicated, due to the fact that there are two possible ways in which Negative Incorporation can be applied. Denominal verbs have a structure that can be analyzed as follows:

(19) [NV]V

Now, given a following negative that is going to be incorporated, one possibility would be to put the negative before the entire verb and another would be to put it between the nominal element and the verb stem. I shall refer to the former type as *preposed* negation and to the latter type as *interposed* negation. (Nondenominal verbs, having only one structural analysis, take only *preposed* negation.) This question of where the negative will be attached constituted one of the problems under investigation.

In addition to this, it was hypothesized that two other constraints were relevant to the application of Negative Incorporation. One of these is whether the nominal part of the expression is of Sino-Korean origin or native vocabulary.¹³ The other is whether the nominal part is monosyllabic or polysyllabic. Specifically, the hypotheses were:

(20) a. *Interposed* negation is favored over *preposed* negation.

b. If the nominal element is of Sino-Korean origin Negative Incorporation is more

¹⁰ Perhaps here is some unknown semantic reasons for this, or it is even possible that not exactly nonstativeness but some other feature is involved here. This question deserves further investigation.

¹¹ This may really be only one priority statement, namely, that the number of syllables is more important than the semantic information.

¹² I am not claiming, however, that one could actually *predict* the directionality of change, because social motivation, which is characteristically unpredictable, plays an important role in most linguistic changes.

¹³ Sino-Korean words are defined as those which can be written in Chinese characters. They are not necessarily direct borrowings from Chinese, but often coined by Koreans using different combinations of Chinese characters.

likely to occur than if the nominal element is not Sino-Korean.

These hypotheses formed the basis for categorizing the example sentences into four classes. Rules E and F involve *interposed* negation:

- (21) $s[X, v[N, V]_v]_s, \text{ Neg}$
 $1, \quad 2, 3 \quad , \quad 4 \quad \implies$
 $1, \quad 2, 4+3 \quad , \quad \phi$

Examples of this type are as follows:

- (22) E. Nominal element is *Sino-Korean*:

i haksaying-un *kongpu ani-ha-nta* [kopbu anhanda]
 this student-T study Neg-do-Aux
 'This student does not study.'

- F. Nominal element is *not Sino-Korean*:

ku yeca-ka alia-lul *nolay ani-ha-nta* [norä anhandä]
 that woman-SM aria-OM song Neg-do-Aux
 'That woman does not sing arias.'

Rules G and H involve *preposed* negation:

- (23) $s[X, v[N V]_v]_s, \text{ Neg}$
 $1, \quad 2 \quad , \quad 3 \quad \implies$
 $1, \quad 3+2 \quad , \quad \phi$

Examples of this type are as follows:

- (24) G. Nominal element is *Sino-Korean*:

i haksayng-un *ani-kongpu-ha-nta* [angopbuhanda]
 this student-T Neg-study-do-Aux
 'This student does not study.'

- H. Nominal element is *not Sino-Korean*:

ku yeca-ka alia-lul *ani-nolay-ha-nta* [annorähanda]
 that woman-SM aria-OM Neg-song-do-Aux
 'That woman does not sing arias.'

3.3.1. Results.

If the hypotheses in (20) were correct, there would be an implicational relationship among E, F, G, and H. Table 3 shows the isolects predicted by the NI rule with different structural descriptions as shown in E-H (see fn. 8 above).

Isolects	Rules	E	F	G	H
VI		+	+	+	+
VI'		+	+	+	X
VII		+	+	+	-
VII'		+	+	X	-
VIII		+	+	-	-
VIII'		+	X	-	-
IX		+	-	-	-
IX'		X	-	-	-
X		-	-	-	-

Table 3. Ideal distribution of judgments according to hypotheses.

The actual results are shown in Table 4. (see fn. 9 above)

Speaker	Isolect	Rules			
		E	F	G	H
7	VI	+	+	+	+
19	VI	+	+	+	+
4	VI	+		+	+
20	VI	⊖	⊖	+	+
21	VII	+	+	+	-
3	VII	+	+	+	-
16	VII	+	+	+	-
23	VII	+	⊖	+	-
1	VIII	+	+	-	-
17	VIII	+	+	-	-
22	VIII	+	+	-	-
2	IX	+	-	-	-
15	IX	+	-	-	-
11	IX	+	-	-	-
12	IX	+	-	-	-
14	IX	+	-	-	-
10	IX	+	-	-	-
9	IX	+	-	-	-
5	IX	+	-	-	-
8	IX	+	-	-	-
13	IX	+	-	-	-
18	IX	+	-	-	-
6	IX	+	-	-	-

Table 4. Empirical results of judgment test on Rules E-H for 23 speakers. 97 percent scalable with 3 deviations and 91 filled cells in 92 possible. Deviations are circled.

3.3.2. Analysis of results.

As Table 4 demonstrates, the hypotheses regarding where the Neg is attached and the significance of the Sino-Korean vs. non Sino-Korean nominal element are strongly supported by the empirical results. Only three deviations occur, all of which seem to have reasonable explanations. Speaker 20's responses indicate that he insists on treating denominal verbs as indivisible wholes, never letting them get split apart by Negative Incorporation. Speaker 23 perhaps shares this view as far as non Sino-Korean denominal verbs are concerned but allows Sino-Korean forms to be divided.

Having demonstrated that these variables have some bearing upon the judgments of grammaticality of the test sentences, it is appropriate to ask what their linguistic basis might be. Consider, for example, the greater acceptability of Rules E and F, where the Neg is placed before the verb stem rather than before the verb as a whole.

This result is entirely consistent with the results of the tests with nondenominal verbs. In those cases, the length of the verb to which the Neg was attached affected the judgment of grammaticality. Specifically, the shorter the verb, the more likely the Type I negative sentence would be judged as grammatical. With denominal verbs, if Negative Incorporation is of the *interposed* type found in Cases E and F, the form to which it is attached is *shorter* than if the Neg were *preposed*. *Interposed* negations are therefore more acceptable. Despite their superficial differences, then, there is a common explanation for the preference of Rules E and F over G and H and the preference of A and B over C and D.

The significance of the Sino-Korean vs. non Sino-Korean nature of the nominal element in these examples is more difficult to explain. One might argue that nominals of one type or the other are more "noun-like" and hence more easily separated from the verb stem by an intervening Neg. Even if this offered an explanation for the fact that Sino-Korean forms allow an *interposed* Neg more easily than non Sino-Korean forms do, it would not explain (perhaps is even contradicted by) the fact that Sino-Korean forms also allow *preposed* negation more easily. All we can say at this point is that, generally speaking, a Sino-Korean denominal verb allows Negative Incorporation (of either type) more easily than does a non Sino-Korean denominal verb.

3.3.3. Monosyllabic vs. polysyllabic nominal elements.

A major shortcoming of this study lies in the treatment of monosyllabic forms. It was not clear at the outset of the experiment exactly what to expect from these forms and the selection

of test sentences was clearly inadequate. For one thing, all of the examples with monosyllabic nominals fortuitously were of Sino-Korean origin and the test instrument is thus inadequate to judge relative acceptability of the two types. Despite these shortcomings there are things that must be said about monosyllabic forms, either from the test results or from introspection.

On the basis of the observations made with polysyllabic forms, we would expect the following to be true of monosyllabic forms:

- (25) a. *Interposed* negation should be more readily acceptable than *preposed* negation.
- b. Sino-Korean forms should accept both *interposed* and *preposed* negation more readily than non Sino-Korean forms.
- c. *Preposed* negation with a monosyllabic nominal should be more readily acceptable than with a polysyllabic nominal.

One clear fact that emerged from the experimental results is that with monosyllabic Sino-Korean forms *interposed* negation is nearly categorically *rejected*. Only three of the 23 speakers accepted any of these *interposed* forms and for all of them their judgments were inconsistent and unrelated to the overall patterns of their responses.

This fact, though not at all surprising to a native speaker of Korean, contradicts the results anticipated by observations with polysyllabic forms. That is, (25a) is not supported. How can this be explained?

To approach this question, consider monosyllabic forms with non Sino-Korean nominals:

- (26) a. cel-an-ha-ta
bowing-Neg-do-Aux
'He does not bow.'
- b. an-cel-ha-ta
Neg-bowing-do-Aux
'He does not bow.'
- (27) a. il-an-ha-ta
work-Neg-do-Aux
'He does not work.'
- b. an-il-ha-ta
Neg-work-do-Aux
'He does not work.'

As stated above, no such sentences appeared on the test. However, it is quite clear that the behavior of these forms is markedly different from that with Sino-Korean forms,

Interposed negation would be quite well accepted unlike the case with Sino-Korean forms. We cannot, therefore, attribute the deviation to some general property of monosyllabic forms.

A foreign word is almost always borrowed as a noun in Korean. But some are borrowed only as bound forms. For example, *pyen* 'change' and *mang* 'failure' are bound forms and cannot occur independently as a noun. Thus the verbs like *pyen-ha* 'to change' and *mang-ha* 'to fail' are never analyzed as N+*ha* but always as indivisible verbs by native speakers. Naturally they resist an *interposed* negative which would force them to stand on their own.

Non Sino-Korean monosyllabic nominals like *il* 'work' and *cel* 'bowing', on the other hand, can occur as independent nouns and thus allow intervening negatives. The deviation observed with Sino-Korean forms thus appears to have a reasonable explanation.

From the fact that monosyllabic Sino-Korean nominals in denominal verbs are always bound forms, it follows that (25b) cannot hold either.

In the absence of adequate data, it is difficult to be definitive about the remaining anticipated results. On the basis of my own introspection, I see no reason to believe that future experimentation will contradict these expectations.

3.4. Type I vs. Type II negation.

It was mentioned in 3.1 that while Type I negation is much less productive than Type II negation and evokes quite a variable reaction from different native speakers, almost any sentence can be negated as Type II.

I have also listened to some recorded tapes of a church sermon, a university lecture and a very informal conversation,¹⁴ and discovered that regardless of degree of formality, Type II negation was used much more in all environments.

The fact that Type II negation is almost unanimously acceptable with almost any verb and that it is much more used in any situation leads us to speculate that Type II negation is historically earlier and that the change has spread to Type I negation, though it is still an ongoing process.¹⁵

¹⁴ I thank Edward Klein and Tai Ok Kim for allowing me to listen to their tapes.

¹⁵ That is, if we follow the hypothesis that an earlier rule has more output than a later one. According to Professor Wanjin Kim (personal communication), Middle Korean had more Type I negation than Type II, which seems to contradict our hypothesis here. However, one can still speculate that Type I negation though it is the older form, became less productive because of some powerful universal constraints such as discussed in this paper, and people became to use Type II more because there is no specific restriction on the transformational rule. In turn, there may have been a new tendency to avoid some complex transformational rules such as *ha*-Addition

4.0. Conclusion.

Traditional descriptions of Korean negation, regardless of differences in the type of approach, included an "optional" rule. Its use, however, was never explained, apparently attributing any irregularity to the "performance" factor (whatever that meant).

This study of variation in Korean negation demonstrates that there is in fact a definite regularity which has not been captured by any traditional competence-performance model. To merely state that one type of negation transformation or another is "optional" is to neglect a great deal of structured, non-random variation in the applicability of that rule. Furthermore, the variation proved to be due to different linguistic constraints and not to any particular extra-linguistic factor.

The fact that the number of syllables of the verb plays an important role seems to confirm the theory that certain syntactic rules require phonological information (cf. Bierwisch 1968). Lakoff's subcategorization of verbs into stative and nonstative also proved to be significant here (cf. Lakoff 1966).

Kiparsky (1971) recently proposed that the factors that control the frequency of application of "optional" rules may be predictable from universal substantive constraints. Consider the principle of length that was relevant to explain the behavior of both denominal and nondenominal verbs. It would not be unreasonable to expect that this could be a universal principle affecting some movement rules. On the other hand, the difference in behavior between stative and nonstative, or Sino-Korean and non Sino-Korean forms is not so easily interpretable on universal grounds. Perhaps such principles exist, or perhaps the features mentioned are not the truly significant ones, but in either case it is not obvious how this could be treated in universal terms.¹⁶

This study confirmed the fact that language variation is often due to differences with respect to the point in a tree where a given speaker applies the same transformation rule (cf. Bailey 1970). Different surface structures result in Type I negation of denominal verbs, depending on how the verb is analyzed by the speaker, i.e. whether the whole compound verb is considered to be an unanalyzable unit or whether it is further analyzed

and Complementation and simply to put Neg before the verb, which is closer to the way lots of languages negate. Thus *as far as there are no counteracting extralinguistic factors*, Type I negation *may* become possible for all verbs eventually.

¹⁶ McCawley's (1968) claim about the existence of lexical strata may be useful not only in a phonological description but also in handling some syntactic behaviors of this kind, though it would not necessarily provide a clear explanation.

as N+V.

It was shown by implicational scales that there is indeed an implicational relationship between various rules in Korean negation. Not all persons will control all the lects, though some may (in principle). What is important is the assumption that speakers know the implicational relationships between rules; thus use of a certain rule will automatically imply the presence of other rules in the grammar. Furthermore a more general rule seemed to imply a less general rule. And it was claimed that the phenomena in question were possibly part of on-going change in process.

So far I have been unable to find any extra-linguistic correlates such as the ones hypothesized in (16c). However, there might be some correlation that is not readily apparent because of the limited data. In the light of more extensive and varied data, we could probably discover some factors that escaped attention in this limited research. If these factors proved to be socially significant, implicational analysis could be utilized to discriminate social dialect levels for educational purposes.

It would have been possible to adopt a Labovian quantitative approach. Thus, we could have written one rule with all the constraints in it, specifying which feature is the most heavily weighted, which is next, and so forth. The quantitative paradigm, however, assumes thus a speaker not only knows all the possible variability but also the proportional relationship that exists between different constraints. Not only is this unlikely, but there is also a danger of just presenting the data in an arranged way.

The dynamic paradigm, adopted by Bailey (1971) and others, seems to make a linguistically significant contribution to a more realistic grammar of a language and to a better understanding of language change, since as Bickerton puts it, "Change is the diachronic aspect of variation, and variation is the synchronic aspect of change." (UH lecture, 1972)

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